

**A new species of *Pandanus* (*Pandanaceae*) from  
New Caledonia  
with a synopsis of *Pandanus* sect. *Veillonia***

B. C. STONE

**Summary :** *Pandanus decastigma* Stone is described from New Caledonia, and allocated to sect. *Veillonia* Stone of subgenus *Lophostigma*. It is the second known member of this section. It is known so far only from the type collection (*MacKee* 27788), in ripicolous vegetation along the Kouakoué River near the south-east coast, on serpentine. The original member of the section, *P. lacuum* St. John ex Stone, is illustrated and a key to the species is presented.

**Résumé :** *Pandanus decastigma* Stone, nouvelle espèce de Nouvelle-Calédonie, est décrite et illustrée. Deuxième taxon de la section *Veillonia* Stone, subg. *Lophostigma*, elle n'est actuellement connue que par l'échantillon type (*MacKee* 27788). L'espèce-type de la section, *P. lacuum* St. John ex Stone est également illustrée et une clé des espèces est proposée.

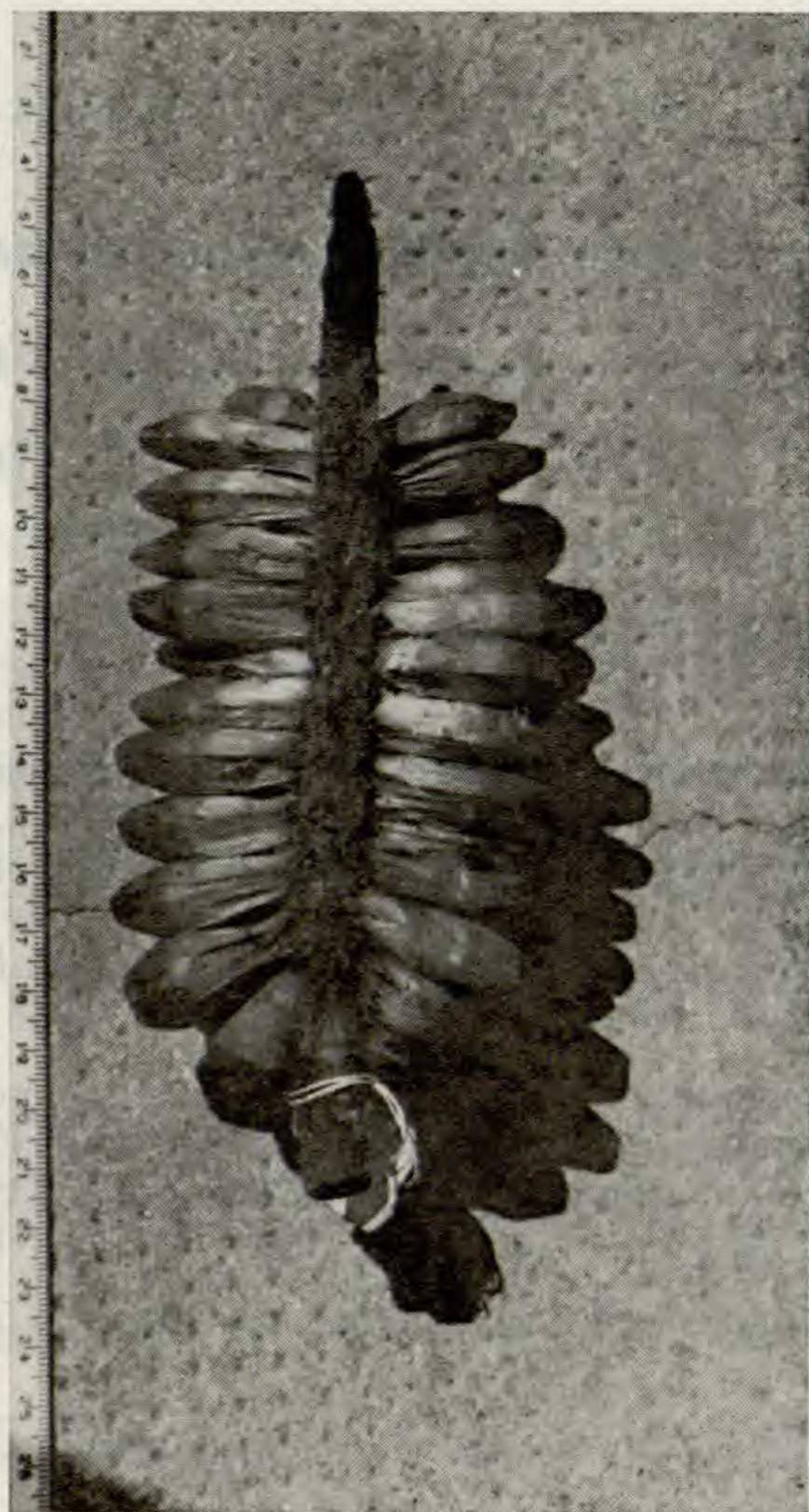
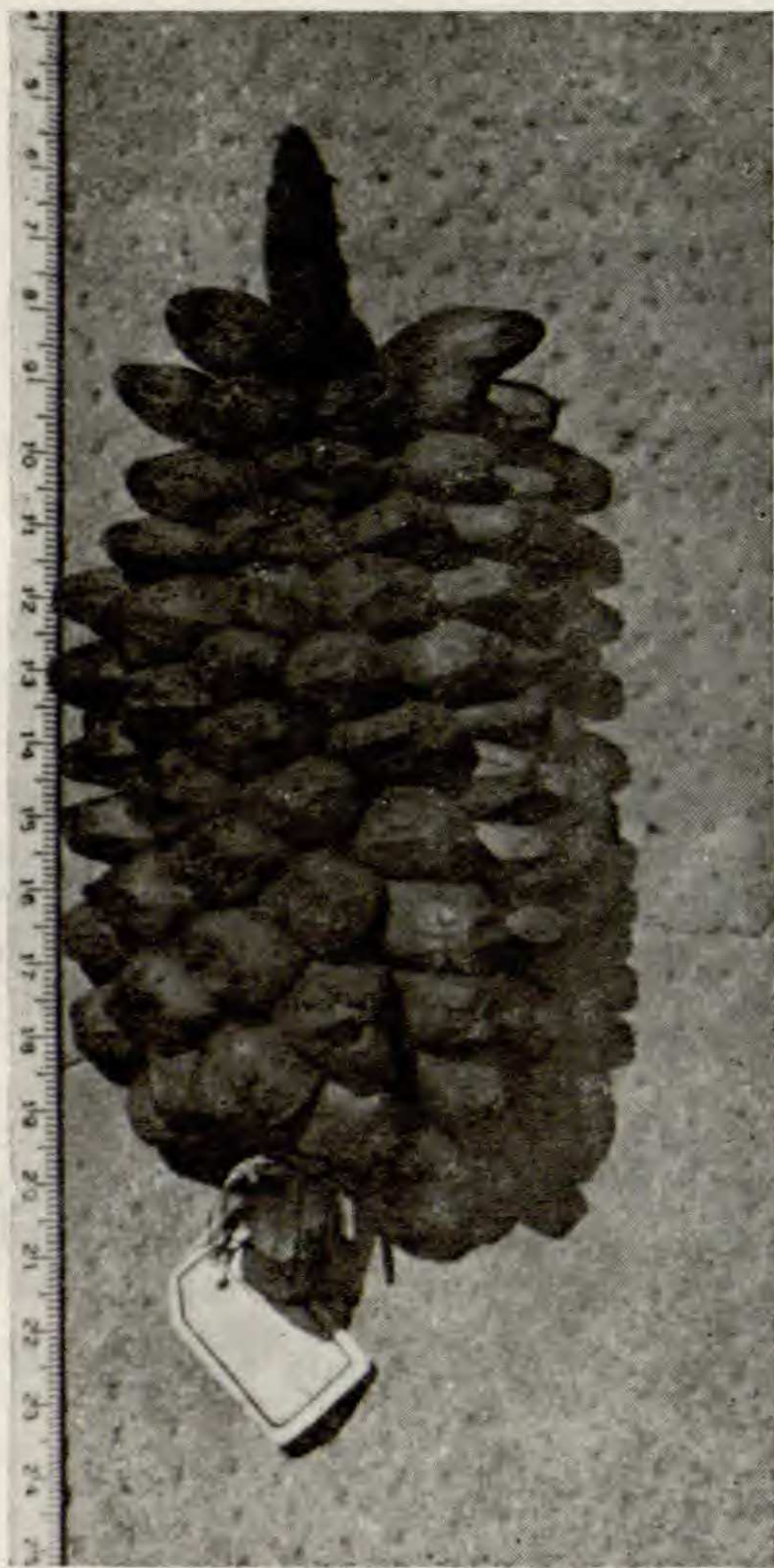
*Benjamin C. Stone, Dept. of Botany, University of Malaya, Kuala Lumpur, Malaysia.*

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The family *Pandanaceae* is well represented in New Caledonia, with two of the three genera, *Freycinetia* and *Pandanus*, and about 32-34 species, of which about 14 belong to the former and 18-20 to the latter genus. A decade ago a summary of New Caledonian *Pandanus* was published (STONE, 1972) in which the infrageneric taxa and their component species were listed. There are two subgenera present, subg. *Pandanus* (represented by the pan-Pacific *P. tectorius* of sect. *Pandanus*), and subg. *Lophostigma*, which has become rich in evolutionary products, including endemic sections. All of the species in this subgenus are endemic, if one includes the Isle of Pines and the Loyalty Islands as belonging to New Caledonia.

One of the most characteristic yet still very little-known sections of the genus is sect. *Veillonia* Stone (1972, 1974). Until now it has been monotypic, consisting only of *Pandanus lacuum* St. John ex Stone (1972) and this species is known only from a few pistillate collections. This species is restricted to the south-eastern part of New Caledonia around the Plaine des Lacs. In its plurilocular phalanges with smooth sides and flat vertex this species stands out from the other New Caledonian species.

From a recent collection by H. S. MACKEE it is now possible to add a second species, described below, to sect. *Veillonia*. It is from the same general region of the island, and is represented by a good pistillate specimen. Staminate materials are still *desiderata* for both species.

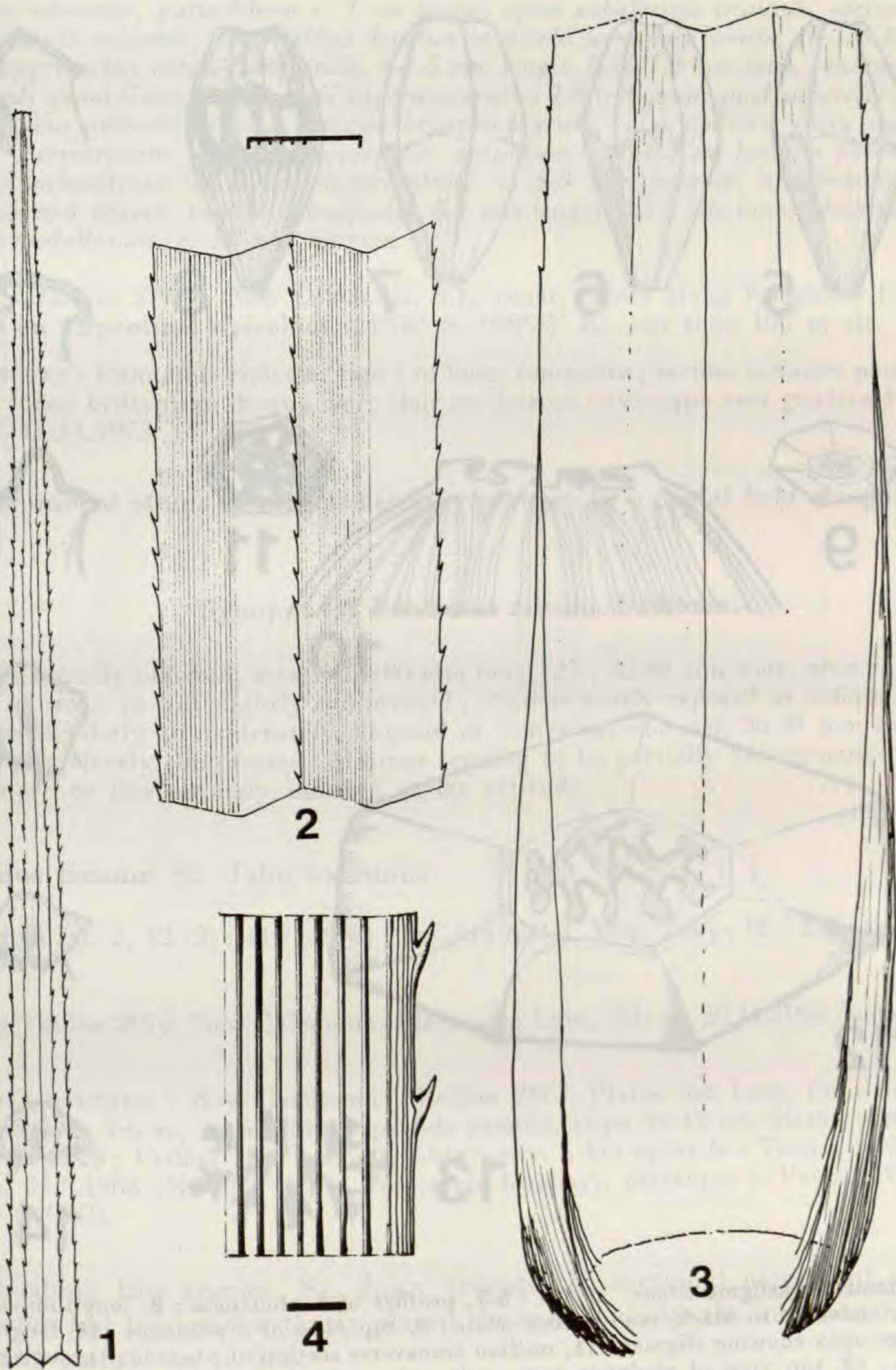


Pl. 1. — *Pandanus decastigma* Stone : Dried cephalium, divided in half longitudinally ; outer surface (shown at left), and inner surface, showing phalanges and receptacle (shown at right). From the holotype, in NOU. (Photos : B. C. STONE).

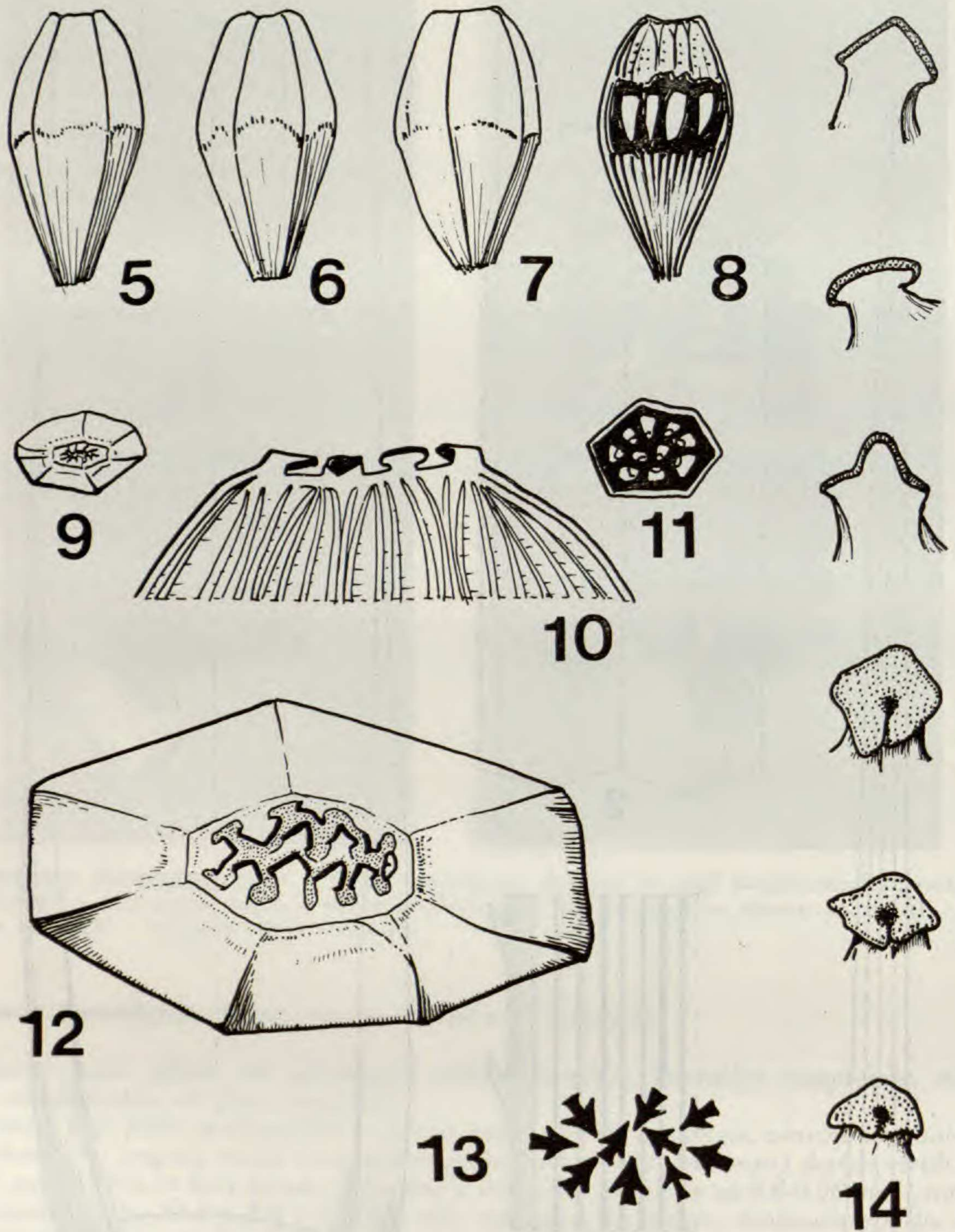
***Pandanus decastigma* Stone, sp. nov. (sect. *Veillonia*)**

A *P. lacuo* valde affinis, sed phalangiis valde minoribus, lateraliter compressis, stigmatibus non-reflexis, subdeltoideis vel pauci-angulatis.

Arbor parva (?), foliis ensiformibus coriaceis usque ad 127 cm longis, sensim attenuatis ad apicem, vix prolongatis ; vaginis nitide brunneis in parte basilari (5-6 cm longo) deinde viridis, inermis (ad 10 cm) ; marginibus in basi deinde denticulatis, denticulis antrorsis ad 0.6-0.96 mm longis, acutis, ad apicem atrobrunneis, (1.5-) 2-6 (-7) mm sese separatis ; in medio, denticulis similis vel leviter minoribus appressibusque, vulgo 2-5 mm sese separatis ; apicem versus, denticulis similis minoribusque, 0.2-0.25 mm longis, 1.5-2 mm sese separatis. Costa media in basi inerme laeve pro parte basilari 20-25 cm, deinde denticulatis, denticulis antrorsis 0.5 mm longis, 3-6 mm sese separatis ; apicem versus, denticulatis similis sed minoribus. Plicae apicali-ventrales apicem versus (parte distali 30-32 cm longa) irregulariter denticulatae denticulis vix acutis 0.4-0.5 mm longis, vulgo 3-6 mm sese separatis sed frequenter inaequaliter distantibus. Pagina supra modice laevis venatio perinconspicua. Pagina infra hebetata, crebre longitudinaliter venosa, venis c. 75 per foliam, c. 0.4 mm sese separatis, venis tertiariis obscuris. Inflorescentia foeminea terminalis, solitaria, pedunculo apicem versus 11 mm diametro, cephalio breve-oblonge-subellipsoideo, c. 18 cm longo, 7.2 cm lato (in vivo 19 × 9 cm), (receptaculo c. 13 × 1.5 cm in sicco), e pluribus phalangibus composito. Phalanges 29-31 mm longae



Pl. 2. — *Pandanus decastigma* Stone. Leaf : 1, leaf apex, upper (ventral) surface, showing denticulate pleats ; 2, middle segment, dorsal surface, showing denticulate midrib and margins ; 3, leaf base, ventral surface ; 4, detail of margin from about the middle, showing veins and two denticuli. Scale : upper bar = 1 cm ; lower bar (with fig. 4) = 1 mm.



Pl. 3. — *Pandanus decastigma* Stone. Fruit : 5-7, profiles of 3 phalanges ; 8, longitudinal section of a phalange ; endocarp in black, seed-locules white ; 9, top view of a phalange ; 10, longitudinal view of phalange apex showing stigmas ; 11, median transverse section of phalange through endocarp with 10 locules ; 12, top view of phalange apex, enlarged to show stigmas ; styles subhastate, stigmatic surface (edges visible) black ; 11 shown ; note stigma at right oblique, slightly reflexed ; 13, diagram showing orientation of carpels in one phalange of 10 locules ; arrow points to placental position in each locule ; stigmas thus centrosopic (centrifugal) ; 14, enlarged views of 6 styles with stigmas, the three upper ones showing the dorsal side, the three lower ones showing the ventral side, i.e. the stigmatic face.

(eos in basi cephalorum exceptae, c. 25 mm longae), (11-) 13-16 (-18) mm crassae, subcompressae, 5-6-angulatae, obovatae, parte libera c. 1 cm longa, apice subabrupte truncato, vertice subplano vel leviter concavo, vix sulcatae; stigmatibus densiter in areola terminali locatis, (6-) 8-10 (-11), stylis perbrevis appressibus nitide ferrugineis, 1-1.5 mm longis, 0.75-1.2 mm latis, concentricè dispositis, linea proximali quam linea distali stylis supernumerariis 1-2 (reliquum quod superest) plus instructo; stylum centralibus antrorse deflectis. Stigma brunneo-nigrum, vulgo abditum infra stylo, vel rariter detegentium. Pericarpium tenue. Mesocarpium apicalium c. 5-6.5 cm longum fibroso-medullosum. Endocarpium subcentrale, vel leviter supercentrale, c. 8-9 mm longum, atroferrugineum, osseum, pariete ad 1.5 mm crasso, loculis subaequalis, 6-7 mm longis, 2.5-3 mm latis. Mesocarpium inferum fibroso-parce-medullosum, c. 15 mm longum.

TYPE : MacKee 27788, New Caledonia, S.E. coast, inland along Kouakoué River, in scrub along banks on serpentine, ripicolous (21°55' S, 166°35' E), less than 100 m alt. (holo-, NOU).

FIELD NOTES : Pandanus ripicole, tige 2 m long, rampante; racines échasses peu développées; feuilles vert foncé brillant en dessus, vert clair en dessous; syncarpe vert grisâtre 19 × 9 cm sur le frais. Coll. 11.11.1973.

The decumbent stems of the species may perhaps be a useful field recognition feature.

#### Synopsis of *Pandanus* section *Veillonia*

1. Phalanges broadly obovoid, mostly 50-60 mm long, (27-) 32-38 mm wide, plump, usually nearly as thick as wide, or but slightly compressed; stigmas nearly exposed or oblique. *P. lacuum*
- 1'. Phalanges slenderly to moderately ellipsoid or somewhat obovoid, 25-31 mm long, 11-18 mm wide, mostly clearly compressed; stigmas tending to be partially hidden under the styles, due to the more or less strongly inflexed styler attitude..... *P. decastigma*

#### *Pandanus lacuum* St. John ex Stone

Adansonia, ser. 2, 12 (3) : 418 (1972); ST. JOHN, Bot. Mag. Tokyo 95 : 236, fig. 5 (1982), and mss. in herb.

TYPE : Veillon 2073, New Caledonia, Plaine des Lacs, 300 m, 20.11.1969 (holo-, BISH; iso-, NOU!).

MATERIAL STUDIED : New Caledonia : Veillon 2073, Plaine des Lacs, forêt de Thalweg sur péridotites; arbres 4-6 m, tronc simple parfois ramifié, stipe 10-17 cm diam., syncarpe allongé, pendant, 20.11.1969; Veillon 1790 (same locality), env. 1 km après le « Trou », forêt assez dense sur cuirasse, 21.5.1968 (NOU!); Jaffré 315 (same locality), identique à Veillon 2073 mais stipe non ramifié (NOU!).

In describing this species, ST. JOHN accepts the sectional placement and sectional name *Veillonia* but has inadvertently placed the species under the incorrect heading "Section *Australibrassia*" on p. 236.

These two very closely related species constitute the section *Veillonia*. As yet, the staminate plants have not been discovered. It will be critical to learn if the staminate phalange structure in this section will prove to have the fundamental characters so far evident in the other New Caledonian endemic taxa of subg. *Lophostigma*.